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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,829	05/27/2005	Hiroe Nakagawa	Y31-184577C/KK	6633

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EXAMINER	
HODGE, ROBERT W	

ART UNIT	PAPER NUMBER
1795	

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12/01/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/536,829	NAKAGAWA ET AL.	
	Examiner	Art Unit	
	ROBERT HODGE	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-7 and 9-20* is/are pending in the application.

4a) Of the above claim(s) *15-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-7,9-14 and 18-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Species 2 in the reply filed on 8/24/09 is acknowledged. It is noted the grounds of rejection below is based on species 1, since species 2 was not found in the prior art.

Claims 15-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/24/09.

Response to Arguments

Applicant's arguments with respect to claims 2-7 and 9-10 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments, see Remarks and Amendments, filed 4/30/09, with respect to the rejection of claims 4 and 10 under 35 U.S.C. 112, 2nd Paragraph have been fully considered and are persuasive. The rejection of claims 4 and 10 under 35 U.S.C. 112, 2nd Paragraph has been withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2-7, 9-11, 13, 14 and 18-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. No support can be found anywhere in the instant specification for the recitation of "wherein R1=R2=R3=R4 is excluded. In fact the specific examples provided in the specification for the chemicals that can be represented by formula 1 all state that R1-R4 are the same, see page 13, third full paragraph. Therefore the amendment is New Matter. It is further noted that no support can be found for each hydrogen atom being replaced by a fluorine atom.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by JP 3-57168 hereinafter Kuriyama.

Through the provided official English Translation, Kuriyama teaches a nonaqueous-electrolyte battery which comprises a positive electrode, a negative electrode, and a nonaqueous electrolyte, which comprises an organic solvent such as propylene carbonate and a lithium salt dissolved therein, characterized by containing at least one quaternary ammonium salt such as tetraethylammonium fluoroborate $\{(C_2H_5)_4NBF_4\}$ in the range of 0.01 – 1.0 mol/g (whole document).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2-5, 7, 9-11 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/86748 (U.S. Patent No. 7,029,793 is used as the English Equivalent) hereinafter Nakagawa in Kuriyama.

Nakagawa teaches a non-aqueous electrolyte lithium secondary battery, comprising a positive electrode, a negative electrode and a separator interposed there between, a non-aqueous electrolyte comprising an organic solvent such as propylene carbonate, a lithium salt such as $LiBF_4$ and a quaternary ammonium salt such as trimethl ethyl ammonium ion which is associated with a fluorine containing anion such as BF_4 (i.e. formula 1 wherein R1=R2=R3=R4 is excluded) all of which are contained in a metal resin composite film (i.e. sheath) (abstract, Column 2, line 64 – column 8, line 39 and embodiments 1-10).

Nakagawa does not specify the specific amount of quaternary ammonium salt present in the electrolyte.

Kuriyama as discussed above is incorporated herein.

At the time of the invention it would have been obvious to one having ordinary skill in the art to optimize the amount of quaternary ammonium salt added to the electrolyte in Nakagawa as taught by Kuriyama in order to provide a lithium secondary

battery that has improved charging/discharging efficiencies and cycle life without adverse effect on ionic conductivity and the electrochemical reaction of the lithium electrode. If a technique has been used to improve one device (controlling the amount of quaternary ammonium salt added to an electrolyte), and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way (providing a lithium secondary battery that has improved charging/discharging efficiencies and cycle life without adverse effect on ionic conductivity and the electrochemical reaction of the lithium electrode), using the technique is obvious unless its actual application is beyond his or her skill. See MPEP 2141 (III) Rationale C, KSR v. Teleflex (Supreme Court 2007). Also since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See MPEP 21344.05.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa in view of Kuriyama as applied to claim 5 above, and further in view of U.S. Patent No. 4,304,825 hereinafter Basu.

Nakagawa as modified by Kuriyama does not teach that the negative electrode employs graphite.

Basu teaches a nonaqueous-electrolyte battery which comprises a positive electrode, a negative electrode that employs graphite, and a nonaqueous electrolyte (column 1, line 37 – column 2, line 30).

At the time of the invention it would have been obvious to one having ordinary skill in the art to employ graphite in the negative electrode of Kuriyama as taught by

Basu in order to provide a battery that permits extensive cycling with minimum reduction in cell capacity and cell voltage. If a technique has been used to improve one device (employing graphite in the negative electrode) and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way (providing a battery that permits extensive cycling with minimum reduction in cell capacity and cell voltage), using the technique is obvious unless its actual application is beyond his or her skill. See MPEP 2141 (III) Rationale C, KSR v. Teleflex (Supreme Court 2007).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2-5 and 7-10 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 7,029,793.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of the instant claims fully encompasses the scope of the claims in U.S. Patent No. 7,029,793, the only difference is the claims of U.S. Patent No. 7,029,793 are further limited with additional structure.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HODGE whose telephone number is (571)272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571) 272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Hodge/
Primary Examiner, Art Unit 1795